DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-003099
Date Inspected: 24-Jun-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1430
OSM Departure Time: 2230
Location: Shanghai, China

CWI Name: Li Yan Hua

Inspected CWI report:	☐ Yes	☐ No	☑ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG

Summary of Items Observed:

On this date, Caltrans Office of Structural Materials (OSM) Quality Assurance (QA) Inspector Edward Leach was present to randomly observe and document the welding and Quality Control (QC) functions performed by ZPMC personnel relative to the fabrication of SAS Superstructure project. While on site, the QA Inspector noted the following work.

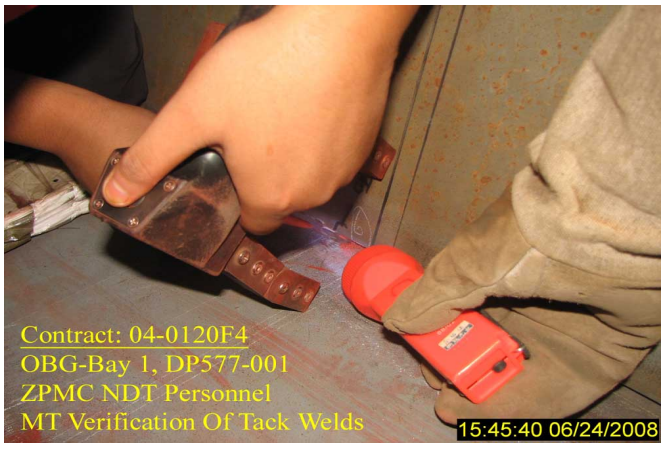
OBG-Bay 1

The QA Inspector observed ZPMC has approximately 53 workers performing various functions relative to the fabrication of the OBG Deck Panels. These functions include; closed rib press forming, hole drilling at ends of U-Ribs using a drill template, PJP bevel preparation, closed rib splice FCAW welding, closed rib diaphragm fit-up and FCAW welding, closed rib to deck plate fit-up and tack welding. Also in this bay, the QA Inspector observed the following deck panels located on gantry 1; DP571-001 (idle), DP567-001 (idle) & DP592-001 (idle). The following deck panels located on gantry 2 are DP577-001 (tack welded) & DP572-001 (tack welded). No production welding for the closed U-rib partial joint penetration (PJP) welds was observed on this shift. Towards the rear of the bay ZPMC personnel were observed performing fit-up and tack welding on DP572-001.
Also in bay 1 the QA Inspector observed ZPMC personnel utilizing the Gas Metal Arc Welding (GMAW) process in accordance with ZPMC welding procedure specification (WPS)-B-T-2342-U2(U-rib) to tack weld each closed rib assembly to the base plate. The welding observed was being performed in the horizontal position with JM-56, 1.2mm diameter wire electrode by ZPMC qualified welding personnel Li Huabei, weld ID #059472 and Shi Yunli, weld ID #059409. As each tack weld was completed both welders were observed using proper interpass cleaning methods with a slag hammer and a wire brush. During this observation the QA Inspector observed ZPMC CWI personnel Li Yan Hua monitoring electrical welding parameters (amps, volts, travel speed). Based on

observations made at this welding station, the welding and workmanship appeared to meet the general requirements of the contract specifications and the above referenced WPS.

Magnetic Particle Testing (MT)
The QA Inspector observed ZPMC MT personnel Wang Wei perform MT for 100% of the tack welded locations for the closed U-rib assemblies on DP577-001. The MT was performed with an electromagnetic yoke with alternating current (AC) as the power source. The detection media used was dry red ferromagnetic particles and applied with powder blower while the magnetizing force is on. As the inspection progressed, Mr. Wang Wei was observed marking up areas containing relevant indications. ZPMC elected to perform grinding only for all areas with relevant indications. Once grinding was completed Mr. Wei was observed performing MT to verify indication removal. The QA Inspector noted a total of thirty-two (32) tack welds said to have relevant indications. Once the completed tack weld repairs were accepted by ZPMC NDT personnel Wang Wei, the QA Inspector performed MT verification for approximately 10% of the tack welded locations for DP577-001. These locations were randomly picked and were located in areas that were not previously marked up by ZPMC NDT personnel. No relevant indications were observed at the time of testing
The QA Inspector also observed that ZPMC NDT personnel previously completed MT for 100% of the tack welded locations on DP572-001. The MT was signed off and accepted by NDT personnel Botin Yui. The QA Inspector performed MT on approximately 10% of the tack welded locations and observed no apparent relevant indications at the time of testing.

New Tower Shop-Bay 3
The QA Inspector performed final MT verification after repairs on DP030-001. The MT was performed for approximately 10% of the areas that was previously MT verified by ZPMC NDT personnel. Upon completion of the MT, the QA Inspector signed off the yellow repair tracking tag located on the outside of the closed rib. No relevant indications were observed at the time of testing. Refer to MT report TL-6027, dated 6/24/08 for specific details.



Summary of Conversations:
No relevant conversations this date.
Comments

WELDING INSPECTION REPORT

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This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Leach,Ed	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer